CIFS/9000 Client Release Note

Version A.01.08

Manufacturing Part Number : B8724-90023
AR0902

U.S.A.

© Copyright 2002 Hewlett-Packard Company.

Legal Notices

The information in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Warranty

A copy of the specific warranty terms applicable to your Hewlett-Packard product and replacement parts can be obtained from your local Sales and Service Office.

Restricted Rights Legend

Use, duplication or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 for DOD agencies, and subparagraphs (c) (1) and (c) (2) of the Commercial Computer Software Restricted Rights clause at FAR 52.227-19 for other agencies.

HEWLETT-PACKARD COMPANY
3000 Hanover Street
Palo Alto, California 94304 U.S.A.

Use of this manual and flexible disk(s) or tape cartridge(s) supplied for this pack is restricted to this product only.

Copyright Notices

Copyright ©copyright 1983-2002 Hewlett-Packard Company. all rights reserved. Reproduction, adaptation, or translation of this document without prior written permission is prohibited, except as allowed under the copyright laws.

Trademark Notices

UNIX® is a registered trademark of The Open Group.

1 CIFS/9000 Client A.01.08

Announcement

NOTE For the latest information on the CIFS/9000 Client, refer to the CIFS/9000 product documentation in the Networking and Communications section of the HP documentation website:

`http://docs.hp.com/`

With CIFS/9000, Hewlett-Packard provides a **Common Internet File System** (CIFS) implementation on HP-UX 11.i. CIFS is the Microsoft protocol for remote file access. It is built into all recent Windows operating systems, including Windows 95, 98, NT, and 2000. By providing both server and client, CIFS/9000 provides file and print inter operability for environments with any mix of UNIX and Windows platforms.

The CIFS/9000 Server allows Microsoft and CIFS/9000 Clients to access the server's file system. The CIFS/9000 Client can mount file systems made shareable by Windows, CIFS/9000 servers, or ASU/9000.

CIFS/9000 also provides PAM NTLM, which is used to authenticate users logging into HP-UX system against Windows NT servers.

About This Document

The technical contents of this document are identical to that of the IA1122 (June 2002) release.

As of this release, the A.01.08 version of the CIFS Client supports the following versions of HP-UX:

- HP-UX 11.0
- HP-UX 11i
- HP-UX 11.22

What's New in Version A.01.08?

This release contains the following enhancements:

- Error reporting by PAM-NTLM

  Error reporting by the PAM-NTLM module has been enhanced such that if PAM-NTLM cannot connect to the password server, an appropriate message is written to *syslog*.

Features and Fixes in Recent Releases

The following features and fixes are listed, beginning with the most recent.

- PAM-NTLM can fail to handle Unix password expiration

  A fix has been implemented for a problem wherein a user with an expired Unix password can login to the host system without being forced to change their expired password. This occurs only if the recommended "stacked" configuration of `libpam_ntlm.1` and `libpam_unix.1` is used and the user is not authenticated by the NTLM server. With this fix, PAM-UNIX forces the user to change their expired Unix password, as expected.

- Disconnected user sessions cannot reconnect

  This enhancement enables user connections that have been terminated by the server to be automatically re-established when the user attempts to access the server.

- Logfile truncation at max size does not work

  This fix enforces the maximum logfile size of 50 Mbytes. If the logfile reaches this size, it is saved with *.prev* appended to its name (overwriting any other previously saved copy). The logfile is then restarted from 0 bytes.

- Incorrect timestamp after DST switch

  This fix improves the synchronization of file timestamps between CIFS/9000 clients and Windows servers, when the time changes between standard and daylight savings time.

- NetBIOS scope broken if scope has embedded period (".") character(s)

  This fixes a bug in the parsing of NetBIOS scope. Scope is an old feature of the CIFS protocol and its use is discouraged.

- Some Japanese multibyte characters cannot be used

  The Japanese-language character-map files for ShiftJIS encoding have been modified to include symbols for integers-in-circles in the range [1 - 20], and various mathematical, Katakana and other symbols. 74 character mappings have been added.

- Latest revision of CIFS Unix Extensions, v2.1

The Hewlett-Packard-authored *CIFS Unix Extensions* enable standard Unix file system semantics, such as symbolic links, file ownership and permissions to be implemented within the CIFS protocol. The latest revision of the specification, developed in collaboration with the Samba open-source project, provides greater inter operability through a new model for handling file sizes across platforms.

It is highly recommended that customers upgrade to version A.01.07 of the CIFS/9000 Client if they will be connecting to servers that support the v2.1 specification. These servers include CIFS/9000 Servers, version A.01.07 and Samba Servers, version 2.2.3. The implementation of the v2.1 specification, in version A.01.07 of the CIFS/9000 Client, is backwards compatible with previous implementations of the specification in versions A.01.07, and earlier, of the CIFS/9000 Server.

- ASCII decode of hexadecimal NetBIOS traces

  The CIFS Client “netbiosTrace” log level option now also displays the ASCII equivalent of the default hexadecimal byte-stream. Users are reminded that log levels should be left at their default settings unless they are required for troubleshooting since increased log levels impede performance.

- A change has been implemented in the caching of file attributes that improves synchronization of directory listings on the client with actual file attributes on the server.

- The section on configuring the PAM-NTLM module in the *Installing and Administering the CIFS/9000 Client* manual contains new and updated information regarding the use of password servers and WINS servers. HP suggests incorporating the *wins server* parameter into your existing *smb.conf* file as shown in the new version of *smb.conf.default*. These files are located in */etc/opt/cifsclient/pam*.

- Default value increased for SMB time-outs

  The default configured value for requestTimeout has been increased from 20 seconds to 60 seconds. For slow networks, or environments with slow servers or links, this helps prevent the CIFS/9000 client from entering an unstable state that can result when a connection is dropped due to an unanswered SMB request.

- Duplicate NFS requests filtered by the CIFS/9000 Client

  This improves reliability of the NFS interface to the CIFS/9000 client.

- NFS attribute-caching is now configurable

  This enhancement allows you to turn on NFS attribute caching, which can improve performance of certain operations, such as creating `tar(1)` archives of large numbers of files residing on mounted CIFS file systems. The default setting is `nfsAttributeCaching = no`, which maintains the same behavior as in previous releases.

- Korean Language support

  A new character mapping file, `unimap-eucKR.cfg`, allows for support of localized Korean HP-UX systems with the CIFS/9000 client. See the *Installing and Administering the CIFS/9000 Client* manual for an explanation of how to configure character-map files.

Other Information

NOTE The following information about the `mountall(1M)` command applies only to HP-UX versions B.11.00 and B.11.11.

A new version of the HP-UX `mountall(1M)` command has been issued as patch PHCO_24777. This patch fixes two problems that can occur in any release of the CIFS Client. The problems arise when there are `CIFS` entries in */etc/fstab* and involve extraneous error or warning messages.

In one case, if the CIFS Client is configured to start at boot, a misleading error is placed in */etc/rc.log*. The message will resemble the following:

```
Mount file systems
Output from “/sbin/rc1.d/S100localmount start”:
----------------------------
mountall: cannot mount server:/share
mountall: diagnostics from mount
ipcclient: error connecting to daemon: [239] Connection
refused
ipcclient: CIFS Client is down.
```

In another case, `swinstall`, when used to install any software, will stop or exit, forcing the user to set `mount_all_filesystems=false`.

The patch is available at either of these web sites:

Americas and Asia-Pacific: `http://us-support.external.hp.com/`
Europe: `http://europe-support.external.hp.com/`

Troubleshooting Information for PAM-NTLM

- If you are having difficulty accessing the password server configured in `smb.conf`, PAM-NTLM can utilize an *lmhosts* file on the local system to look up its address. To utilize this functionality, create the file, */etc/opt/samba/lmhosts*, containing entries, one per line, in the following format where netbios_name is the password server used by PAM-NTLM.

  `ip_address` <one or more tabs or spaces> `netbios_name`

- If you are going to remove the PAM-NTLM fileset (or the entire CIFS/9000 Client) from your system, ensure that all references to the `libpam_ntlm.1` library have been removed from */etc/pam.conf*. Your system can become inaccessible if PAM-NTLM is configured in `/etc/pam.conf` but the PAM-NTLM libraries are removed from the system.
- Use caution when editing */etc/pam.conf*. You should have a good understanding of the PAM framework before modifying this file. A misconfigured */etc/pam.conf* can make the system inaccessible or cause a serious security breach, such as allowing root access to anyone, without a password. See the reference to `pam.conf` in section 4 of the HP-UX manpages and in the PAM-NTLM Configuration section in *Installing and Administering the CIFS/9000 Client*.

Recommended Configuration Values

HP recommends changing the value of the following three configuration parameters to their new default values:

- `runAsUser`
- `requestTimeout`
- `nfsAttributeCaching` (you will need to add this one)

You can either compare the new default file, */etc/opt/cifsclient.cfg.default*, to your existing *cifsclient.cfg*, or make the modifications manually. Leave the *cifsclient.cfg.default* file unchanged and use it as a reference.

NOTE If you have not customized your configuration file in any way, you can simply copy *cifsclient.cfg.default* over your existing *cifsclient.cfg*.

Use the following instructions to change to the new configuration parameters:

1. Change the value of `runAsUser` to `runAsUser = "root"`. `runAsUser` is in the global settings near the beginning of the file. Changing this value to `= "root"` allows the CIFS/9000 client to create a core file in case of an unexpected abort.
2. Change the value of `requestTimeout` to 60 seconds (the value is specified in milliseconds, so `requestTimeout = 60000`). requestTimeout is in the "`defaultServer = {...}`" section at approximately line 208.
3. Add the following `nfsAttributeCaching` entry in the "`defaultServer`" section: `nfsAttributeCaching = no`. Adding this value will have no effect if you are not upgrading to the current version of the CIFS/9000 client. `nfsAttributeCaching` can = `yes` or `no`.

Benefits and Features

See the *Installing and Administering the CIFS/9000 Client* manual for details on the following features. The latest version can be found at `http://docs.hp.com`

- Integration with Unix `mount` commands

  The `mount(1M)` and `umount(1M)` commands can now be used for operations on CIFS file systems.

- Support for Internationalized Clients

  A variety of internationalized clients can be supported with the

CIFS/9000 Client through the use of either Unicode or any of several character-mapping files provided in */etc/opt/cifsclient/unitables*.

- Support for Advanced Server for Unix (ASU) and Windows 2000

  The CIFS/9000 Client has been tested and is supported with the following servers:

  — HP CIFS/9000 Server (HP Samba)

  — HP ASU/9000

  — Windows NT

  — Windows 2000

NOTE See Known Problems and Workarounds below for important additional information about use of ASU Servers.

- Large-File Support

  The CIFS Client removed previous restriction of four gigabytes.

PAM NTLM

- Supports Password Expiration

  Password expiration now works on non-trusted HP-UX systems. Refer to the CIFS/9000 Client manual for configuration details.

- Password change supports `try_first_pass` and `use_first_pass` options.

  PAM NTLM module can be stacked with other PAM modules for password change. Refer to Notes, Cautions and Warnings in the Additional Background Information section below.

- PAM NTLM now returns correct error codes for Authentication errors.

  PAM NTLM returns correct error codes so that the applications can return appropriate error messages in case of authentication failures.

Background Information PAM NTLM provides a centralized authentication service for HP-UX and Microsoft Windows NT servers or other UNIX servers running HP CIFS/9000 server. HP CIFS/9000 Client product includes the PAM NTLM that integrates HP-UX login with any CIFS/9000 server or Windows NT domain controller.

Consult the user manual *Installing and Administering the CIFS/9000 Client* for detailed information on PAM-NTLM.

NOTE

Read the PAM documentation for understanding the `use_first_pass` and `try_first_pass` options. The administrator has to be fully aware of the results of using these options in password change. Due to the differences in password policies among different PAM modules, password change may get passwords out of sync for different modules with which these options are used.

Notes, Cautions, and Warnings

- It is assumed that the administrator is familiar with the general PAM framework. The administrator has to be fully aware of the consequences of modifying the PAM configuration file.
- PAM Stacking may cause problems when used with password change and expiry because of the password policy differences between the PAM modules being stacked. The users may get their passwords (for different stacked PAM modules) out of sync if the policies mismatch. Refer to the PAM documentation for details on stacking.

Known Problems and Workarounds

For the CIFS/9000 Client

- The CIFS/9000 Client with ASU/9000 Servers

  There is a known, infrequent problem between the CIFS/9000 Client and ASU. If you find that a connection to an ASU server becomes inaccessible, turn off *opportunistic locks* (oplocks) for communications with ASU, in the CIFS Client configuration file */etc/opt/cifsclient/cifsclient.cfg*. Oplocks can be turned off globally, in the `defaultServer` section, by setting `requestOplock=no`. A preferred method is to turn off oplocks only for ASU servers. To do so, first add the following lines, if they are not already present, to the `serverClasses` section. Then, to turn off oplocks for only this class of server, set `requestOplock=no`:

```
{   // Match ASU:
    OS = "*";
    LanManager = "*Advanced Server*";
    config = {
        disableSmbs = (     // these are additional to other config
            setattrTrans2SetFile,   // don't use trans2/setfileinfo
           setattrTrans2SetPath,   // don't use trans2/setpathinf
         );

        requestOplock = no;
    };
}
```

- Removing a Directory and its Contents

  Removing a directory and its contents in one step using the command, `rm -rf <directory>`, may fail on directories located on a *cifsmount*. If the directory contains ~30 or more files, only part of the directory contents will be removed and the directory itself will remain since its contents have not been removed

  A workaround is to remove the directory and its contents in *two* steps

  1. `rm -rf <dir>/*` # Remove directory contents.
  2. `rmdir <dir>` # Remove directory itself.

For PAM NTLM

The passwd(1) program may not return any message (Success or Failure) in some cases. For example, if the user tries to change his password when the “user cannot change password” option is set on the NT server, the passwd command does not return a message. In such cases, check the return value of the passwd command (passwd returns zero for success) and the syslog file (*/var/adm/syslog/syslog.log*).

List of Documents Available with Product

The list below contains documentation related to the CIFS/9000 Client

- *Installing and Administering the CIFS/9000 Client* (B8724-90022).
- *CIFS/9000 Client Release Note* (B8724-90023, this document).

These documents are also available under the CIFS/9000 section of `http://docs.hp.com`

Software Availability in Native Languages

The CIFS Client is designed to work with a multitude of native languages: most character-sets used in modern languages in Europe, the middle East, the Americas and Asia are supported. The character-set displayed on the CIFS Client console is configured with the parameter `clientCharMapFile`, which selects any one of the many character mapping files provided with the product. Character translations for communications with CIFS Servers can be done either in Unicode or through the configuration parameter `serverCharMapFile`, which also is used to select a character mapping file. Use of Unicode is turned on and off with the `useUnicode` parameter. More details are provided in the CIFS Client manual as well as in comments in the configuration file itself (*/etc/opt/cifsclient/cifsclient.cfg*).

An index, which enumerates the character encoding implemented in each map file, is located in the file */etc/opt/cifsclient/unitables/README*, and is reproduced below. In general, files that are described as performing "DOS codepage" or "NEXTSTEP" conversions are used for communications with servers, while files referring to "ISO" or "JIS" are used for converting characters to the locale configured on the local HP-UX CIFS Client. Note that this discussion assumes that the locale for which you want to customize the CIFS Client is available as well for the HP-UX desktop. Here are the descriptions of the character map files:

```
unimap8859-1.cfg    conversion to ISO "Western European" character set
unimap8859-2.cfg    conversion to ISO "Eastern European" character set
unimap8859-3.cfg    conversion to ISO "Other Latin Languages" character set
unimap8859-4.cfg    conversion to ISO "Northern European" character set
unimap8859-5.cfg    conversion to ISO Latin/Cyrillic character set
unimap8859-6.cfg    conversion to ISO Latin/Arabic character set
unimap8859-7.cfg    conversion to ISO Latin/Greek character set
unimap8859-8.cfg    conversion to ISO Latin/Hebrew character set
unimap8859-9.cfg    conversion to ISO Latin/Turkish character set
unimap8859-15.cfg   Similar to ISO 8859-1; includes the "Euro" currency symbol
unimapBig5.cfg      conversion to Big5 (Asian) character set (16 bit)
unimapCP437.cfg     conversion to DOS codepage 437 (Latin US) character set
unimapCP737.cfg     conversion to DOS codepage 737 (Greek) character set
unimapCP775.cfg     conversion to DOS codepage 775 (Baltic Rim) character set
unimapCP850.cfg     conversion to DOS codepage 850 (DOS Latin 1) character set
```

```
unimapCP852.cfg     conversion to DOS codepage 852 (DOS Latin 2) character set
unimapCP855.cfg     conversion to DOS codepage 855 (Cyrillic) character set
unimapCP857.cfg     conversion to DOS codepage 857 (Turkish) character set
unimapCP860.cfg     conversion to DOS codepage 860 (Portuguese) character set
unimapCP861.cfg     conversion to DOS codepage 861 (Icelandic) character set
unimapCP862.cfg     conversion to DOS codepage 862 (Hebrew) character set
unimapCP863.cfg     conversion to DOS codepage 863 (CanadaF) character set
unimapCP864.cfg     conversion to DOS codepage 864 (Arabic) character set
unimapCP865.cfg     conversion to DOS codepage 865 (Nordic) character set
unimapCP866.cfg     conversion to DOS codepage 866 (Cyrillic Russian) char set
unimapCP869.cfg     conversion to DOS codepage 869 (Greek 2) character set
unimapCP874.cfg     conversion to DOS codepage 874 (Thai) character set
unimapNeXT.cfg      conversion to NEXTSTEP character set
unimapJIS.cfg       conversion to JIS208 and JIS212 Kanji char sets (16 bit)
unimapJIS201.cfg    conversion to JIS201 Kanji character set (8 bit)
unimap-eucJP.cfg      conversion to eucJP-ms JIS X 0201 and JIS X 0208 (Japanese
                    EUC) character set
unimapShiftJIS.cfg  conversion to ShiftJIS Kanji character set (8/16 bit)
unimapShiftJIS-std.cfg  conversion to ShiftJIS Kanji character set (8/16 bit)
                    (This version is straight after the standards but probably
                     not usable because of the backslash mapping). See the
                     remarks in unimapShiftJIS.cfg for an explanation.
unimap-eucKR.cfgconversion to eucKR Korean character set
```